Combating Chikungunya: Mosquitoes in the Crosshairs

BY **VJOHNSON** – AUGUST 12, 2014

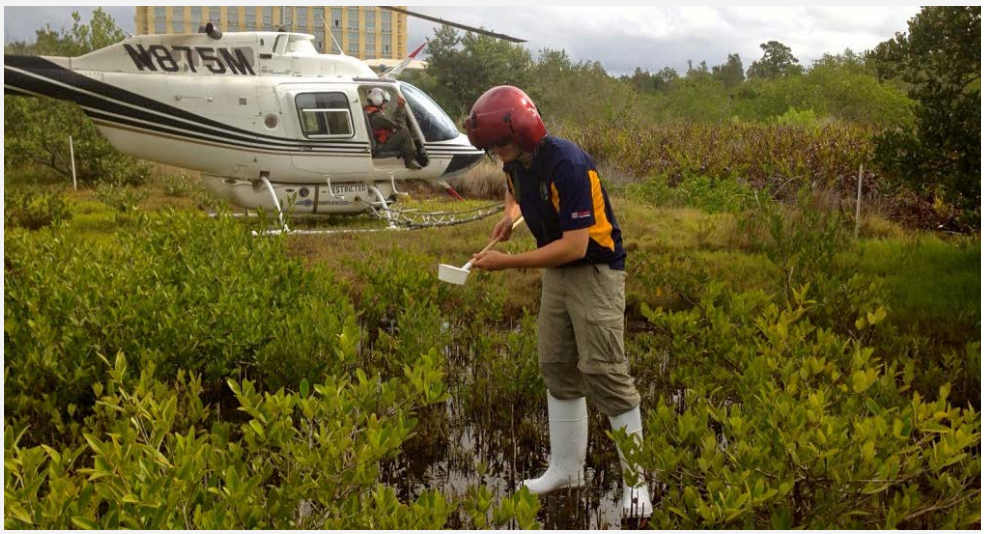
POSTED IN: NEWS

By Lt. Hanayo Arimoto, Lt. Jen Wright and Cmdr. Peter Obenauer, Navy Entomology Center of Excellence (NECE), Jacksonville, Florida

JACKSONVILLE, Fla. — As summer approaches, mosquitoes become a nuisance and the diseases they carry threaten public health. This summer a new disease threat is on the horizon, especially to those in the southeastern United States. Chikungunya (CHIK) may sound like a southern delicacy but in fact is a dangerous viral disease transmitted by the bite of infected *Aedes albopictus* or *Aedes aegypti* mosquitoes.

"Chikungunya is a mosquito-borne disease that recently entered the Caribbean and is continuing to spread thorough out the region," said Stephanie Moody- Geissler, Vector-Borne Disease Surveillance for the Florida Department of Health**.**

"This virus can cause high fever, joint and muscle pain, and headache. Luckily CHIK does not usually result in death, however the joint pain can last for months or years and for some it may become a cause of chronic pain and disability," said Dr. James Cilek, Testing and Evaluation Department Head, NECE. "There is currently no specific treatment for CHIK infection, nor any vaccine to prevent it. Currently, the only effective means of prevention is to protect individuals against mosquito bites."



LEE COUNTY, Fla. – Lt. James Harwood, NECE Entomologist surveys for mosquito larvae with Lee County Mosquito Contro District as part of an integrated mosquito control program.

Chikungunya has been making headlines stateside ever since several cases were discovered in December 2013 on the island of Saint Martin in the Caribbean. As of July 11th, 2014, there have been 5,037 confirmed and 350,580 suspected cases of CHIK in 23 countries or territories in the Caribbean, Central America, or South America. Of these there have been a total of 236 confirmed imported cases of CHIK in the United States, and two locally transmitted cases in the state of Florida. The symptoms of CHIK are painful and debilitating, keeping many adults from work and children from school. The Centers for Disease Control and Prevention (CDC) anticipates the spread

Search...

Recent Posts

- **I AM NAVY MEDICINE**
- **'Unwavering Strength' for a New Year, New You**
- **I AM NAVY MEDICINE**
- **Independent Duty Corpsman – A Specialized Lifesaver**
- **NAVY MEDICINE IN FOCUS**

Recent Comments

- Jami Mesgar on **'Unwavering Strength' for a New Year, New You**
- Chuck Bryan on **I AM NAVY MEDICINE**
- Richard G. Shuster on **A brief history of the U.S. Navy Independent Duty Corpsman**
- Anna Schwarz on **I AM NAVY MEDICINE**
- Shannon Dittlinger on **I AM NAVY MEDICINE**

Archives

- **January 2015**
- **December 2014**
- **November 2014**
- **September 2014**
- **August 2014**
- **July 2014**
- **June 2014**
- **May 2014**
- **April 2014**
- **March 2014**
- **February 2014**
- **January 2014**
- **December 2013**
- **November 2013**
- **October 2013**

Categories

- **A LOOK BACK**
- **FEATURES**
- **I AM NAVY MEDICINE**
- **NAVY MEDICINE IN FOCUS**

of CHIK to the United States. The most current information about the CHIK status in the Americas can be found on the CDC's website at: http://www.cdc.gov/chikungunya/geo/americas.html.

The Navy Entomology Center of Excellence (NECE) at Naval Air Station, Jacksonville, FL has been closely monitoring the spread of CHIK.

"NECE is the only Department of Defense (DoD) activity devoted exclusively to operational entomology," said Capt. Eric Hoffman, Officer in Charge NECE. "We provide worldwide operational support and services and are the focal point for the development and testing of pest management technologies to protect deployed war-fighters. Maintaining open communication and sharing information with a broad range of public health professionals helps to ensure that we are providing the best protection to not only the deployed war fighter but civilians as well."

The center is a source of subject matter experts for surveillance and control of mosquitoes and other disease carrying insects that threaten public health and our deployed forces. One way NECE actively maintains the readiness and skills of its Entomologists and Preventive Medicine Technicians (PMTs) is by sending them to the Lee County Mosquito Control District (LCMCD) in Lehigh Acres, FL for hands-on training with one of the nation's top mosquito control districts.

"We are privileged to have these kinds of opportunities with the LCMCD," said Hoffman. "Field experience is a crucial element of training our Entomologists and PMTs to better carry out our mission to protect deployed forces; which is why we recently sent two Entomologists and one PMT to the LCMCD to receive training in controlling mosquito vectors using advanced technologies in a complex environment that can be applied to not only chikungunya control but all mosquito-borne diseases."

"The district is responsible for nearly 1000 square miles, making LCMCD the largest Florida county mosquito control program," said retired Navy Cmdr. T Wayne Gale, Executive Director LCMCD. "With 15 aircraft including two DC-3's equipped with sprayers, 2 boats, and a fleet of various trucks in their inventory, plus an in-house disease surveillance laboratory, all operated by highly experienced crewmembers, this district is serious about providing the best mosquito control and surveillance to its residents.'

After one week at the LCMCD, the NECE team gained hands-on experience in ground, waterway, and aerial adult and larval mosquito surveillance and control. The team accompanied mosquito larvae surveillance and control crews in helicopters, boats, and ditch trucks. Additionally, the NECE team accompanied a crewmember from the Hyacinth Control District on an airboat to learn how water hyacinth contributes to mosquito problems. Furthermore, the NECE team learned how mosquito transmitted disease such as West Nile virus and Eastern equine encephalitis were monitored with the use of sentinel chickens.

"This experience with the LCMCD is extremely valuable for PMTs, especially new PMTs because when it comes to vector control, it is important to know how to properly recognize and respond to signs of a potential or an ongoing pest problem," said Hospital Corpsman 1st Class Brent Turnwall, Preventive Medicine Technician, NECE. "For chikungunya control, this means recognizing breeding sites such as artificial containers and tree holes and knowing how to treat these sources when necessary or remove the sources via sanitation."

"Navy Entomologists definitely benefit from this experience with the LCMCD because it allows us to directly translate the information we receive into preventive medicine programs for diseases such as chikungunya," said Lt. James Harwood, NECE entomologist.

"NECE has recently developed a Chikungunya Surveillance and Control Plan for U.S. Navy and Marine Corps Installations that is available on request to all PMTs and DoD Installations," said Lt. Marcus McDonough, Department Head of Fleet Support, NECE. "The plan outlines techniques for surveillance of CHIK vectors as well as control measures that should be taken when the disease is deemed a threat."

In the absence of hi-tech equipment, what can people do to protect themselves from bites this mosquito season, especially with the threat of CHIK?

The two mosquito species that transmit CHIK prefer to breed in containers of standing water. Both are persistent day-time biters, favoring humans over other hosts. Removing standing water and containers of water from around your home will reduce the number of places the mosquitoes can breed. When in areas where mosquitoes are present, remember to wear long sleeved shirts and long pants, and apply insect repellent containing DEET or picaridin.

For questions concerning chikungunya prevention, mosquito control or other pests, please contact: NECE-Fleetsupport@med.navy.mil or your cognizant Navy Environmental and Preventive Medicine Unit.

About vjohnson

- **NEWS**
- **SCRUBBING IN**

Meta

- **Log in**
- **Entries RSS**
- **Comments RSS**
- **WordPress.org**